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Oxo alkyl pyridine cmpds. - having fibrinolytic, analgesic and anti-inflamma-tory activity are prepd. e.g. by oxidn of corresp. alcohol

Cmpds. of formula (I) and their salts are new:

$$R\text{-}Ph\text{-}A\text{-}\overset{\overset{X}{\|}}{C}\text{-}Py \quad (I)$$

(where R= opt. substd. cyclo-aliphatic gp.), Ph= ortho- or para-phenylene gp.; A= lower alkylene or a direct bond, X = oxo grp. opt. functionally modified e.g. to NOH, Py= pyridyl).

USES

Cmpds. (I) are useful intermediates and have fibrinolytic, analgesic and anti-inflammatory activities. Test results are reported.

PREPARATION

(i) $R\text{-}Ph\text{-}A\text{-}Y + Z\text{-}Py \longrightarrow (I)$

(ii) $R\text{-}Ph\text{-}A\text{-}\overset{\overset{OH}{|}}{C}H\text{-}Py \xrightarrow[esp.\ CrO_3]{oxidn.} (I)$

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(iii) $R\text{-}Ph\text{-}A_1\text{-}\overset{\overset{X}{\|}}{C}\text{-}Py \longrightarrow (I)$

(iv) $Py\text{-}Y_2 + R\text{-}Ph\text{-}H \longrightarrow (I)$

(v) $R\text{-}Ph\text{-}A_2\text{-}\overset{\overset{X}{\|}}{C}\text{-}Py \xrightarrow{H_2} (I;\ A=\text{alkylene})$

wherein (i) one of the gps. Y and Z is carboxyl, or a functional deriv. thereof and the other is a metal atom; (ii) A_1= A substd. by a cleavable gp. Y; esp. an α-CO_2H gp.; (iii) Y_2 is a functionally modified carboxyl gp.; (iv) A_2= lower alkenylene

DETAILS

Y may be an esterified carboxyl, anhydride or a cyano gp.; Z= Na, K, pref. Li or Zn-Hal, pref. Cd-Hal or Mg-Hal. Y_2 is suitably an acid chloride gp. and the reaction is carried out in the conventional way using a Lewis acid as catalyst.

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SPECIFICALLY CLAIMED

Py position of substituent	-ACO	Ph position of substits
2-	-CO or -CH(CH$_3$)CO	4-R^9 or 3-Cl-4-R^9
3-	-CO	4-R^9
2-	-CO or -CH(CH$_3$)CO (or oxime)	4-R^{10}
4-	-CH(CH$_3$)CO	4-R^{10}
2-, 6-Me	-CH(CH$_3$)CO	4-R^{10}

(R^9= cyclohexyl; R^{10}= cyclohexen-1-yl).

EXAMPLE

A 1.5N soln. (175 ml) of butyllithium in ether was stirred at -60° under an atmos. of N_2 and 2-bromopyridine (40 g) in anhydrous ether (50 ml) was slowly added dropwise. After 15 mins. p-(1-cyclohexenyl)-benzoic acid (15 g) in anhydrous ether (250 ml) was added. The reaction mixt. was then allowed to warm to room temp. before being stirred for 2 hrs. It was then poured onto a mixt. of ice and NH_4Cl and partitioned between water and ether. The ether phase was sepd., washed with water, 0.1N NaOH soln. and water, dried over Na_2SO_4 and evaporated under reduced pressure. The residue was distilled under reduced pressure. The fraction b.pt. 200° (0.9mm Hg) contained crude 2-{p-(1-cyclohexenyl)-phenyl}oxymethyl}-pyridine, m.pt. 58-60°.(61751V)

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Liquids contg. 99m technetium - isotope generator using alumina and hydrated manganese dioxide with 99m molybdenum as sodium molybdate

In a process for producing liquids contg. ^{99m}Tc, using a vessel contg. an alumina carrier for the mother isotope (^{99m}Mo) which is present as a molybdate, part of the alumina is coated with hydrated manganese dioxide in amt. of 1.5-4 mg. Mn per gram of alumina, pref. 2.2-3 mg/g.

USE

The solns. contg. ^{99m}Tc are useful as tracers in medical diagnosis and for marking protein and sulphur colloids.

ADVANTAGES

The product solns. are of good purity, contg. no Al^{3+} ions and have pH 6.5-7.5.

DETAILS

The vessel (1) has an entry port (2) at the top and an outlet (3) at the bottom; it is flanged on both ends (4). There is a taper at (5) housing a trapezoidal glass filter (6). The inlet and outlet (2,3) are closed with flanged rubber plugs (7) secured by aluminium covers (10) containing a hole (11). The upper layer of carrier material (12) consists of alumina

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particles which are partially or fully coated with hydrated or partly hydrated manganese dioxide. The lower layer (13) is alumina. The total amt. of carrier material is e.g. 7g., of which 3g. is in the upper layer. The carrier material is located between the glass filter (6) and a micropore filter (14) held against the material by a sealing ring (15). In the upper layer (12) is the mother isotope ^{99m}Mo as an alkali metal molybdate, e.g. sodium molybdate. A wash liq. e.g. physiological saline is fed into the top of the vessel through a hollow injection needle and the mother isotope ^{99m}Mo is absorbed as sodium molybdate. Through radioactive decay ^{99m}Tc is present in the form of sodium pertechnetate which is taken up by the soln. and then, after passing through the lower layer (13) and the filter (6), can be drawn off with an injection needle.(61761V).